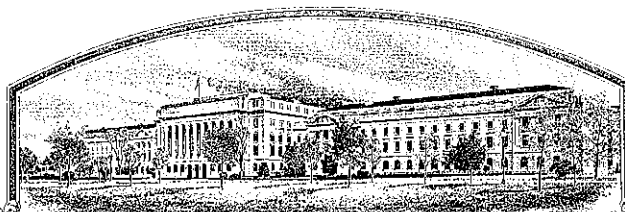


No.

9500176



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DEKALB Genetics Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

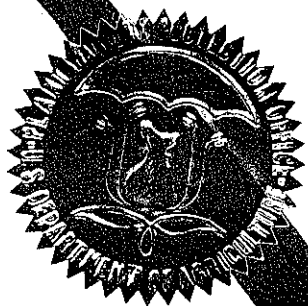
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'CX278'



Attest:

Marshall A. Stanton
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of September in the year of our Lord one thousand nine hundred and ninety-six.

Samuel J. Hittman
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
DEKALB Genetics Corporation		EX428	CX278
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)		5. TELEPHONE (include area code)	FOR OFFICIAL USE ONLY PVPO NUMBER 9500176 DATE MAY 17, 1995 FILING AND EXAMINATION FEE 2450.00 DATE May 15, 1995 CERTIFICATION FEE 300.00 DATE 08/19/96
3100 Sycamore Road DeKalb, IL 60115		(815) 758-3461 6. FAX (include area code) (815) 756-2094	
7. GENUS AND SPECIES NAME	8. FAMILY NAME (Botanical)		
Glycine max L. Merr.	Leguminosae		
9. CROP KIND NAME (Common name)			
Soybean			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)			
Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
Delaware		June 15, 1988	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS			14. TELEPHONE (include area code)
Robert E. Roman, Jr. & R. Mark Lawson, Ph.D. DEKALB Genetics Corporation 3100 Sycamore Road DeKalb, IL 60115			(815) 758-3461
			15. FAX (include area code)
			(815) 756-2094
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
<input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety <input type="checkbox"/> Exhibit D. Additional Description of the Variety <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership <input checked="" type="checkbox"/> Voucher Sample (2,600 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)?			
<input type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input checked="" type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?		19. IF YES TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?	
<input type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?			
<input checked="" type="checkbox"/> YES (If "yes," give names of countries and dates) <input type="checkbox"/> NO			
USA Spring 1995			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.			
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s))		SIGNATURE OF APPLICANT (Owner(s))	
Mark Lawson			
NAME (Please print or type)		NAME (Please print or type)	
R. Mark Lawson			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Director, Research Operations	5-5-95		

9500176

EXHIBIT A**Origin and Breeding History**
CX278

CX278 is a mid to late Group II variety derived from a cross between CX259 and EX925 (MO203.CX366). CX278 was selected for yield.

Winter 1988	F1 made.
Spring 1988	F2 generation advance.
Summer 1988	F3 generation advance.
Winter 1988	F4 generation advance.
Summer 1989	F5 generation advance. Individual plants harvested.
Winter 1990	F6 generation advance

Seed from the F6 plant row was bulked and yield tested in 1990 - 1994. Seed increases occurred in 1991 (100 pounds), 1992 (6,000 pounds), 1993 (60,000 pounds) and 1994 (44,000 bushels).

The variety was given the name CX278 and released in the spring of 1995.

Statement of Stability and Uniformity

Soybean variety CX278 has been judged to be uniform for breeding use and testing after 5 generations of selfing. CX278 was reproduced and judged uniform and stable for an additional 5 generations.

Statement of Variants

CX278 has exhibited hila color other than gray up to 0.5 percent. Otherwise, CX278 shows no variants other than what would normally be expected due to environment or that would occur for almost any characteristic during the course of repeated sexual reproduction.

EXHIBIT B**Statement of Distinctness**

CX278 is most similar to CX267. CX278 differs from CX267 for the following characteristics:

<u>TRAIT</u>	<u>CX278</u>	<u>CX267</u>
Iron Chlorosis	Mod. resistant	Mod. susceptible
Maturity	Julian date = 263.9	Julian date = 262.3
Seed size	20.6 gms/100 sds	15.7 gms/100 sds
Peroxidase activity	Low	High

22 NOV 19 01 43

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EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY

Soybean Variety CX278

APPLICANT: DEKALB Genetics Corporation 3100 Sycamore Road DeKalb, IL 60115

1. SEED SHAPE: Elongate
2. SEED COAT COLOR: (Mature Seed) Yellow
3. SEED COAT LUSTER: (Mature Hand Shelled Seed) Dull
4. SEED SIZE: (Mature Seed) 20.6 grams/100 seeds
5. HILUM COLOR: (Mature Seed) Gray
6. COTYLEDON COLOR: (Mature Seed) Yellow
7. SEED PROTEIN PEROXIDASE ACTIVITY: Low
8. SEED PROTEIN ELECTROPHORETIC BAND:
9. HYPOCOTYL COLOR: Light purple
10. LEAFLET SHAPE: Ovate
11. LEAFLET SIZE: Medium
12. LEAF COLOR: Medium green
13. FLOWER COLOR: Purple
14. POD COLOR: Tan
15. PLANT PUBESCENCE COLOR: Gray
16. PLANT TYPE: Intermediate
17. PLANT HABIT: Indeterminate
18. MATURITY GROUP: II

19. DISEASE REACTION: (0=Not Tested; 1=Susceptible; 2=Resistant)Bacterial Diseases:

Bacterial Pustule: 0
 Bacterial Blight: 0
 Wildfire: 0

Viral Diseases:

Bud Blight: 0
 Yellow Mosaic: 0
 Cowpea Mosaic: 0
 Pod Mottle: 0
 Seed Mottle: 0

Nematode Diseases:

Soybean Cyst Nematode
 Race(s):3 1
 Lance Nematode: 0
 Southern Root Knot Nematode: 0
 Northern Root Knot Nematode: 0
 Peanut Root Knot Nematode: 0
 Reniform Nematode: 0
 Other:

Fungal Diseases:

Brown Spot: 0
 Frogeye Leaf Spot: 0
 Target Spot: 0
 Downy Mildew: 0
 Powdery Mildew: 0
 Brown Stem Rot: 0
 Stem Canker: 0
 Pod and Stem Blight: 0
 Purple Seed Stain: 0
 Rhizoctonia Root Rot: 0
 Phytophthora Rot

Race(s):1 2
 3 2
 4 1

20. PHYSIOLOGICAL RESPONSES: (0=Not Tested; 1=Susceptible; 2=Resistant)

Iron Chlorosis on Calcareous Soil: 2
 Other:

21. INSECT REACTION: (0=Not Tested; 1=Susceptible; 2=Resistant)

Mexican Bean Beetle: 0
 Potato Leaf Hopper: 0
 Other: 0

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

Character	Name of Variety	Character	Name of Variety
Plant Shape	CX267	Seed Coat Luster	CX267
Leaf Shape	CX267	Seed Size	CX252
Leaf Color	CX267	Seed Shape	CX267
Leaf Size	CX267	Seedling Pigmentation	CX267

23. DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO OF DAYS MATURITY	PLANT LODGING SCORE	PLANT HEIGHT CM	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS /POD
				Width cm	Length cm	% Prot	% Oil		
CX278	0	8.1	96.0			33.2	19.6	20.6	2.5
CX267	-1.9	7.7	94.7			34.0	19.3	15.7	2.5

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FORM APPROVED - OMB NO. 0581-0055

EXPIRES: 12-31-98

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

**EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) DEKALB Genetics Corporation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER EX428	3. VARIETY NAME CX278
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 3100 Sycamore Road DeKalb, IL 60115	5. TELEPHONE (include area code) (815) 758-3461	6. FAX (include area code) (815) 758-4106
7. PVPO NUMBER 9500176		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company?

☒ YES ☐ NO

If no, give name of country _____

10. Is the applicant the original breeder? If no, please answer the following:

☐ YES ☐ NO

a. If original rights to variety were owned by individual(s):

Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country _____

☐ YES ☐ NO

b. If original rights to variety were owned by a company:

Is the original breeder(s) U.S. based company? If no, give name of country _____

11. Additional explanation on ownership (if needed, use reverse for extra space):

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

Public reporting burden for this collection of information is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter.

Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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